



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/606,436

06/25/2003

Steven M. Burns

085.10940-US (03-325)

6928

34704 7590 02/20/2009

BACHMAN & LAPOINTE, P.C.

900 CHAPEL STREET

SUITE 1201

NEW HAVEN, CT 06510

EXAMINER

IP, SIKYIN

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

02/20/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* STEVEN M. BURNS  
and STEVEN P. HAHN

---

Appeal 2008-4945  
Application 10/606,436  
Technology Center 1700

---

Decided:<sup>1</sup> February 20, 2009

---

Before EDWARD C. KIMLIN, LINDA M. GAUDETTE, and  
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

---

<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

This is an appeal from the final rejection of claims 1-23, 28, and 29. Claims 24-27 and 30-33 have been withdrawn from consideration as being directed to a non-elected invention. Claims 1 and 15 are illustrative:

1. A method for heat treating at least one workpiece comprising the steps of:

cleaning a furnace to be used during said heat treating method;

said cleaning step comprising injecting a gas at a workpiece center location and applying heat; and

diffusion heat treating said at least one workpiece in a gas atmosphere with said gas being injected at said workpiece center location.

15. A method for providing at least one workpiece having a coating comprising the steps of:

diffusion heat treating said at least one workpiece in gas atmosphere within a furnace with said gas being injected at a workpiece center location;

removing said workpiece from said furnace; and

subjecting said coated workpiece to a surface finishing operation.

The Examiner relies upon the following references as evidence of obviousness:

|                         |               |               |
|-------------------------|---------------|---------------|
| Burns                   | US 6,042,898  | Mar. 28, 2000 |
| Naoyuki (as translated) | JP 62139810   | Jun. 23, 1987 |
| Ritaku (as translated)  | JP 2003027209 | Jan. 29, 2003 |

Appellants' claimed invention is directed to a method for heat treating a workpiece comprising cleaning a furnace by injecting a gas at a workpiece center location and applying heat, and diffusion heat treating the workpiece

by injecting gas at the workpiece center location. Independent claim 15 on appeal recites a method for diffusion heat treating a workpiece but does not recite the step of cleaning the furnace.

Appealed claims 1-14, 28, and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burns in view of JP '810 and JP '209. Claims 15-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burns.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejections for essentially those reasons expressed in the Answer.

We consider first the § 103 rejection of claims 15-23. Appellants submit the "there is nothing here [in Burns] which teaches a diffusion heat treating step" (Reply Br. 3, first para.). However, Burns expressly discloses the following:

The thermal barrier coating of the present invention may be deposited directly onto the blade **2** as shown or may be deposited over an undercoating on or diffused into the surface of the blade **2**. For example, the thermal barrier coating of the present invention may be deposited over a diffusion aluminide coating diffused into the surface of the blade **2**. (col. 2, ll. 44-50).

Burns further discloses that "the metallic bond coat **6** may comprise a diffusion aluminide" (col. 2, ll. 66-67). Hence, contrary to Appellants' argument, Burns provides a clear teaching of a diffusion heat treating step.

Also, while Burns does not specify which area or location of the workpiece the gas is injected at during the diffusion heat treating, we are persuaded that it would have been obvious for one of ordinary skill in the art to inject the gas at the entirety of the workpiece, including its center location. Significantly, claim 15 does not recite that the gas is injected **only** at a workpiece center location and, indeed, Appellants have not specifically defined the meaning of the language "gas being injected at a workpiece center location." The breadth of the claim recitation is open to a myriad of interpretations.

We now turn to the § 103 rejection of claims 1-14, 28, and 29 over Burns in view of JP '810 or JP '209. Claim 1 recites a cleaning step in addition to a diffusion heating step. The cleaning step comprises injecting a gas at a workpiece center location and applying heat. Burns discloses cleaning the workpiece to remove oil, other organic or carbon-forming contaminants, surface oxides, etc. at elevated temperatures in an oxidizing atmosphere (*see* col. 3, ll. 33 *et seq.*). Burns also teaches ionized gas stream cleaning of the workpiece (col. 3, l. 49). As with Burns' diffusion heat treating step, Burns does not specify the particular area or location of the workpiece at which the cleaning gas is injected. However, we are satisfied that it would have been obvious for one of ordinary skill in the art to inject the cleaning gas of Burns at all areas or locations of the workpiece, including the center location. Claim 1 does not recite that the cleaning gas is injected only at the workpiece center location, nor does claim 1 require any particular order in which the cleaning and diffusion heat treating steps are performed. Appellants have provided no specific definition for the center location of the workpiece. Also, JP '810 and JP '209 provide further

evidence of the obviousness of cleaning a furnace and its components with an inert gas at elevated temperatures.

Appellants' additional arguments with respect to dependent claims have been adequately addressed by the Examiner.

As a final point, we note that Appellants base no argument upon objective evidence of nonobviousness, such as unexpected results. While Appellants state that they "have already provided evidence of an unexpected result obtained in an unexpected way" (Principle Br. 13, first para.), Appellants have not shouldered their burden of demonstrating unexpected results by providing the requisite factual evidence and analysis thereof. Appellants' reference to Figures 3 and 4 of the present Specification as demonstrating unexpected results will not be considered as untimely. Arguments not raised in the Principal Brief are considered waived. In any event, Appellants have not set forth the required analysis of the Specification figures. It is not for this Board to ferret out factual data in the record and interpret it in a light most favorable to the applicant.

In conclusion, based on the foregoing, the Examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(effective Sept. 13, 2004).

AFFIRMED

cam

Appeal 2008-4945  
Application 10/606,436

BACHMAN & LAPOINTE, P.C.  
900 CHAPEL STREET  
SUITE 1201  
NEW HAVEN, CT 06510